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ALASKA ECONOMIC TRENDS

An Overview of Alaska's Oil Industry

Alaska Mining Reawakens

August Ends A Generally Upbeat Summer

November 1989

ALASKA DEPARTMENT OF LABOR STEVE COWPER, GOVERNOR

ALASKA ECONOMIC
TRENDS

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Alaska Economic Trends is a monthly publication dealing with economic-related issues of Alaska. Opinions and analyses expressed by guest authors may not be consistent with those of the Alaska Department of Labor.

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This issue of Alaska Economic Trends is dedicated to the memory of our editor: John Michael Fagan, who died October 17, 1989. His commitment to excellence was unsurpassed. His smiling Irish eyes will be missed.

Cover Design by Jim Fowler

MADE in ALASKA

Alaska Mining Reawakens

by R. David Carnes

A Sleeping Industry Awakens

In 1988, Alaska's sleeping giant- the hardrock mining industry-showed signs of awakening from a forty-four year slumber. The slumber that began in 1944 when the Alaska-Juneau (AJ) Mine closed. Signs of renewed activity for the industry came from Interior Alaska with Citigold Alaska, Inc., and Tricon Mining, Inc., producing 21,500 ounces of gold-silver bullion from lode deposits on Ester Dome, near Fairbanks.

Even more important to the industry were mining development activities; an estimated $269 million was spent constructing roads, ports, mines, mills, and support facilities for the Greens Creek Mine in Southeastern Alaska, and the Red Dog Mine in Northwestern Alaska. These two mines will bring Alaska back as a leading minerals producing state, a status it has not enjoyed for 45 years. Reopening of the AJ, Kensington, and Jualin mines in the Juneau area, coupled with ongoing production statewide from placer operations, coal mines, and industrial minerals sites, will account for substantial minerals production for many years to come.

This article outlines some recent developments in Alaska's resurgent mining industry and will give a few brief sketches of projects which could substantially add to Alaska's mining industry.

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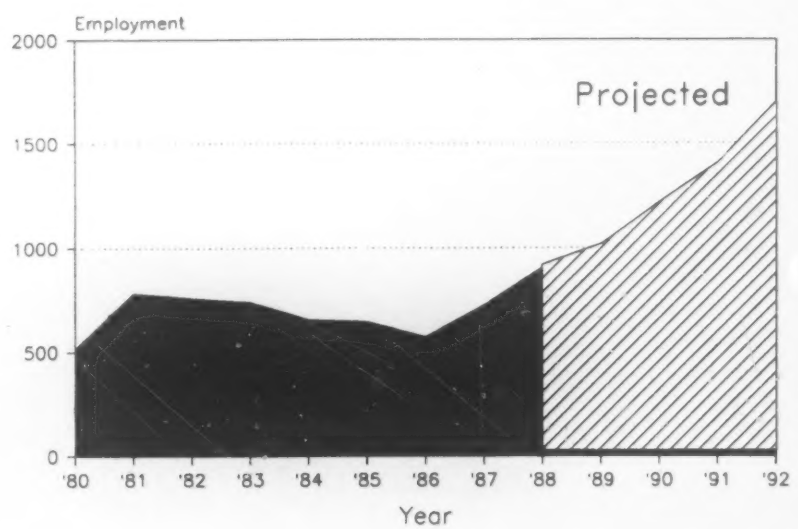
Higher Mineral Prices & Large Reserves Rejuvenate Industry & Employment

Rejuvenation of Alaska's mining industry has been influenced by several factors, the most important being a rise and stabilization of the price of gold (approaching $400/ounce), accompanied by favorable prices for silver, zinc, and lead. In addition to improved prices, higher grades and/or larger reserves of Alaskan mines accounted heavily for the revival.

As evidence of the industry's growth, total mining employment for 1988 increased almost 50% over 1987 (4,900 in 1988 versus 3,300 in 1987).(see Editors Note.) These figures represent employment in all phases of the

Figure 1

Direct Mineral Mining Employment 1980-1992



Sources: Alaska Department of Labor, Research & Analysis; Projections:U.S. Bureau of Mines

Editors Note:

This definition of mining employment is inconsistent with Alaska Department of Labor definitions of mining employment. The employment figures in Figure 1 refer to Alaska Department of Labor mining employment (excluding oil & gas mining).

industry, including construction workers of developing mines and small independently owned placer mines. Another sign of a rebound was that the value of exploration, development, and production expenditures rose to $546.4 million in 1988 compared to $318.4 million in 1987. The reevaluation of the major mines in Southeast Alaska, plus development of the Greens Creek and Red Dog mines account for most of the rise in these expenditures.

Direct mining employment figures for the years 1980 to 1988 are shown in Figure 1. These figures are reported by the Alaska Department of Labor and represent only segments of Alaska's hardrock mining industry. They do not include every phase of exploration and development activities such as a construction crew building an access road. Nor do they include self-employment operations, such as most small industrial mineral or placer mining operations.

Placer Gold Mining – A Dominant Producer & Employer

Placer gold mining operations contributed substantially to 1988 mine production levels and employment. Western Gold (West Gold) Exploration and Mining Company produced an estimated 30,000 ounces of gold by processing material offshore of Nome with the bucketline dredge "Bima". Two other large dredges were operated inland from the city of Nome by Alaska Gold Company, while Windfall Gold Mining Corporation engaged in an open-cut and sluicing operation in the same general area. Approximately 98,500 ounces of gold was produced in the Western mining district of Alaska and provided employment for 425 persons, the largest number for any area of the state.(See Figure 2.)

Another large placer gold mining operation was located in the Southcentral district of Alaska. In 1988 the Valdez Creek Mining Company, east of Cantwell, produced 52,961 ounces of raw gold and was the largest single placer producer in the state. However as of September 1989 this mine suspended operations.

Supplementing the large operators, small gold placer operations in the state numbered approximately 200. This level is similar to 1987; however, it is about half the active operations listed in 1984. The decline was a result of two court injunctions affecting U.S. Department of Interior managed lands. A lawsuit initiated in 1985 resulted in the prohibition of mining in three national conservation units until the National Park Service completed environmental assessments. Meanwhile the Bureau of Land Management (BLM) was required to complete similar cumulative assessments on placer mines on BLM lands in Alaska. These actions resulted in the loss of about 175 jobs and a decrease of 22,000 ounces of gold production.

Coal, Sand and Gravel – Small but Important Mining Operations

Coal production in the state remained about the same as for 1987, totaling 1.55 million tons. All coal mining production was from the Usibelli Coal Mine, near Healy. Approximately 811,000 tons of coal was shipped to the Korean Electric Power Company in Honan, South Korea. An additional 14,000 tons of coal was sent to Japan's Electric Power Development Corporation for testing, while approximately 727,000 tons fueled six Interior Alaska power plants.

Sand and gravel production increased slightly in 1988 to 17.2 million tons, an increase of about a half million tons over 1987 production. Crushed stone production increased to 3.6 million tons in 1988, double the 1987 production. This increase was attributed to infrastructure development at the Red Dog Mine, the Bradley Lake hydroelectric project, and the development of Southeastern Alaska mines, specifically the Greens Creek Mine.

Project Sketches: Alaska's Major Mining Projects

☐ Greens Creek Mine

In March 1989, the Greens Creek Mining Company brought a 1,000 ton per day mine into production. The deposit was discovered in 1974 by Pan Sound Joint Venture. Following the discovery, an extensive drilling program was conducted and excavation of a test adit (a horizontal entrance) was completed in 1979. This adit permitted underground exploration drilling to outline the ore body and the recovery of bulk ore samples for preliminary testing. By the end of 1983, ample ore reserves had been delineated, land holdings and access had been guaranteed by Congress through the passage of the Alaska National Interest Lands Conservation Act, and precious metal prices had sustained a near-constant level.

The Greens Creek deposit, as presently outlined, contains recoverable reserves

Figure 2

Alaska Mining Districts & Select Mine Sites

Source: Dept. of Natural Resources, Geological & Geophysical Surveys.

of 3.5 million tons of ore grading 24 oz./ton silver, 0.18 oz./ton gold, 9.7% zinc, and 3.9% lead. Annual production from the mine is estimated at 6.5 million ounces of silver, 36,000 ounces of gold, 25,000 tons of zinc, and 9,000 tons of lead. This level of production will make the Greens Creek Mine the largest silver producer in the United States.

The mine employs about 225 workers plus administrative staff. The workers and their families reside in Juneau. Employees commute the 18 air-miles between Juneau and the mine by ferry and bus. Mine facilities and bulk ore concentrate storage facilities are located at Hawk Inlet on the western side of Admiralty Island. Ore concentrates are shipped via ocean vessels to smelters and refineries in Europe and Japan.

Present ore reserves will provide for at least 10 years of production. However, the deposit has yet to be fully outlined, so additional years of production can be anticipated.

☐ Red Dog Mine

At the close of 1988 the Red Dog Mine, located 90 miles north of Kotzebue, was 60% complete. A 52-mile access road had been completed in 1987, at an approximate cost of over $55 million.

During 1988, major efforts were directed to port site construction, erection of the concentrate storage building, installation of fuel tanks, and installation of ship loading facilities. Camp accommodations and service buildings were constructed, and initial work on the concentrator mill foundation and the tailings impoundment dam were started. The concentrator was prefabricated in the Philippines and installed during the summer of 1989.

Production will commence in early 1990. The Red Dog deposit contains recoverable reserves of 85 million tons of ore, grading 17.1% zinc, 5% lead, and 2.4 oz./ton silver. Production is set at 750,000 tons of total concentrates per year. At peak production the Red Dog Mine will be the largest zinc mine in the western world.

When in full production, the mine will employ about 200 people. Cominco Alaska, Inc., the operator, is attempting to employ local personnel. It is their intent to begin operations with 50% local hires and increase that number towards 100% by year 10 of production. With known reserves, the mine life is expected to exceed 50 years.

The Red Dog deposit was discovered in 1968. The land area was withdrawn from mineral entry due to the Alaska Native Claims Settlement Act (ANCSA), and subsequently selected by the Regional Native Corporation - NANA established by ANCSA. In 1982, Cominco Alaska, Inc., and NANA reached a settlement on development of the deposit on NANA lands. When financial commitments were assured through the Alaska Industrial Development and Export Authority for development of the transportation system, the project became a reality.

☐ Alaska-Juneau (AJ) Mine

In 1986, Echo Bay Mines, Ltd. of Edmonton, Alberta, Canada, acquired the option to develop the Alaska-Juneau (AJ) Mine from Barrick Resources Corporation. The AJ Mine and associated Perseverance Mine had produced 3.5 million ounces of gold, 1.9 million ounces of silver, and 40.2 million pounds of lead from 1880-1944.

After purchase from Barrick, Echo Bay and their project operators, WGM, Inc., of Anchorage, Alaska, began assessing the potential of reopening the mine. In 1987, a 1,000 ton bulk ore sample was evaluated, and although test results were not encouraging the company pushed ahead using conventional gravity and cyanide recovery methods. A road was constructed to the original Sheep Creek adit, the old entry was excavated and access made possible using the old tunnel. An intense underground drilling program was conducted during 1987-1988. Detailed work has been conducted outlining new ore reserves and confirming old reserve grades. A large decline was driven in 1988 connecting various underground levels. Reserves of nearly 100 million tons of minable ore have been delineated and initial plans for production have been made.

When operational, the mining rate will be 20,000 tons of ore per day. At this rate, approximately 250,000 ounces of gold would be produced annually. The mine will employ 450 workers and all personnel will reside in Juneau. Extensive construction will take place installing a processing mill underground, erecting new surface facilities, and building an impoundment dam to create hydroelectric power and store tailings in the Sheep Creek valley approximately 3 miles south of the downtown Juneau area. Mine life is being set at 15 years, but this figure could be substantially increased after production gets underway in 1993.

☐ Kensington Mine

Echo Bay Mines, Ltd., through their subsidiary Echo Bay Exploration, and Coeur D'Alene Mines, are in the final stages of evaluating the old Kensington Mine, located approximately 50 miles north of Juneau. The property was acquired for $20 million from the Placid Oil Company through a Chapter 11 bankruptcy sale.

In 1988, Echo Bay constructed a two-mile road from tidewater at the abandoned community of Comet to the mine entrance, at approximately the 800-foot elevation level. A 5,800-foot long adit was driven and a bulk metallurgical sample was taken for studies and mine design purposes. Underground drilling began in 1989 to outline the ore body and establish mine reserves. Preliminary daily production rate is set at 3,000 tons per day.

The mine would employ 250 to 300 workers. As with the Greens Creek Mine, the support infrastructure would be based in Juneau. Workers will rotate to the mine site on a bi-weekly basis, rather than a daily basis. The mine life would be about 10 years.

☐ Jualin Mine

In 1988 a six-mile access road was constructed from the shoreline on the north side of Berners Bay to the site of the Jualin Mine along Johnson Creek. The Jualin Mine, first placed into operation in 1885, was acquired in the mid-1970s by Hyak Mining Company. In 1983 and 1984 Bear Creek Mining Company performed diamond core drilling in an attempt to outline new reserves. In 1987,

International Curator Resources, Ltd., acquired an option on the property and undertook the assessment of the ore body. During 1988, 22,000 feet of core drilling was completed bringing the total geologic reserves to over 2.0 million tons of ore containing 0.309 oz/ton of gold. Prior to July of 1989, Placer Dome U.S., a San Francisco based company, acquired a 50% interest in the mine. Work in 1989 has consisted of driving an 800-foot decline and obtaining 100-500 tons of ore for a bulk sample.

If feasibility studies are encouraging, the mine start-up date will be 1991. Initial estimates set the mining rate at 500 tons/day with an estimated average work force of 60 persons. The mine life is estimated at about 10 years.

☐ Chichagof Mine/
Hirst-Chichagof Mine

An assessment program was conducted in 1988 at the Chichagof Mine, located north of Sitka. In 1981, a new vein was discovered near the Golden Gate No. 4 Vein, and Golden Sitka Resources, Inc., was formed to explore and develop the properties. Also, feasibility studies were conducted on the potential of dredging for placer gold in the waters of Klag Bay by Ott Water Engineers for Coastal Development Corporation.

☐ Quartz Hill

Reviewing the awakening of Alaska's mining industry would not be complete without acknowledging U.S. Borax's Quartz Hill molybdenum deposit. This deposit, located 45 miles east of Ketchikan, contains in excess of 1.5 billion tons of ore, averaging 0.135% molybdenite per ton. This amounts to approximately 11% of the world's known molybdenum supply.

To date, U.S. Borax has invested over $100 million in the project. After 8 years, in 1988 the revised Draft Environmental Impact Statement was completed.

This deposit, when developed, would provide 800-1,000 permanent jobs. Ketchikan would be the main supply center for both personnel and supply needs.

Original estimates anticipated that this deposit would be in production in 1987. Unfortunately, delays in environmental studies, and more importantly, a decrease in the price of molybdenum has made a start-up production date uncertain. No matter when the mining of the deposit becomes a reality, it remains a major component in the revitalization of the Alaska mining industry.

☐ Canadian Mine Development

The resurgence and stabilization of the price of gold has created new Canadian interests in mining operations in British Columbia that will have Alaska infrastructure support. The evaluation of the Tulsequah Chief Mine, located about 50 air miles from Juneau, by Cominco/Redfern Mining Companies has delineated an ore body with over 50,000 ounces of gold and 2.3 million ounces of silver. In 1957, when the mine closed, remaining ore reserves were estimated at 780,000 tons containing 10,140 tons of copper, 12,480 tons of lead, and 62,000 tons zinc. If placed into production, logistical support would come through Juneau.

South of Wrangell, Alaska, Skyline Resources of Vancouver, British Columbia, developed the Johnny Mountain Mine to produce 200 tons per day. This production will be increased in the future to 300 tons per day with 686,000 tons of reserves at 0.57 oz/ton gold. This mine employs 75 workers.

To the south of the Johnny Mountain Mine, Cominco, Ltd., is exploring the Snip gold property and conducting feasibility studies for a strip mine. An estimated reserve of 1.58 million tons averaging 0.64 oz./ton gold is available at Snip. In the Sulphurets area, reserves of 850,000 tons averaging 0.35 oz./ton gold and 22.9 oz./ton silver is known.

In 1986, Curragh Resources, Inc. reopened the Faro Mine at Faro, Yukon Territory. Concentrates of lead and zinc from the 13,500 ton per day mill are trucked to Skagway, Alaska, for ocean transport to worldwide smelters. With over 17.5 million tons of outlined reserves, production can be assured for several years in the future.

Alaska Is Likely to Return As A Prominent Precious Metals Producer

As Alaska's mining industry stirs from its slumber, Alaska will rise in national standing as a mining state. Present gold production of 265,000 ounces places the state sixth in the nation behind Nevada, California, South Dakota, Utah, and Montana. A reopening of the AJ, Kensington, and Jualin mines, plus the addition of 36,000 ounces of gold from the Greens Creek Mine, would increase Alaska's annual gold production to an estimated 673,000 ounces per year by 1993. While this number would not surpass the 3,621,233 ounces of gold produced in 1988 from Nevada, or the 729,272 ounces from California, it would raise the state to number three in annual gold output. When the Red Dog Mine reaches full production capacity, Alaska will become the number two silver producer in the nation. Together, these two parameters assure Alaska's return as a major precious metals producing state.

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An Overview of Alaska's Oil Industry

by John Boucher, Brian Rae & James Wilson

In the last 30 years Alaska's oil & gas industry evolved from a minor player in the state's economy to one of the most important industries. By some measures, the oil and gas industry is today the most prominent one in the state.

This article is a broad view of Alaska's oil and gas industry. It will briefly examine its development and will look at Alaska's current position in the world oil market. Further, employment characteristics and trends in the industry will be examined. Finally, this article will air recent oil industry developments and how these developments may affect the industry in Alaska.

30 years ago Alaska was a minor player in the oil industry.

1957-1968: Infancy on the Kenai Peninsula

The Swanson River field, discovered in 1957 on the Kenai Peninsula, was the initial site of commercial production of Alaska oil and gas. Four offshore fields came online in the early 60s which brought Alaska's crude oil production to more than 200,000 barrels per day. (See Table 1.) By 1968, Alaska was a significant oil producer, and the industry was contributing more than 20% of the total revenue to the state's treasury.

1968-80: Prudhoe Bay Transforms Alaska into Oil Giant

In 1968, a super giant oil field was discovered at Prudhoe Bay. In 1969, $900 million in bids for Prudhoe oil tracts signalled the beginning of the black gold rush.

The remaining obstacle was finding a way to get Prudhoe Bay oil to market. A pipeline was proposed. Although many roadblocks materialized, the Arab oil embargo of 1973 spurred Congress into passing legislation enabling pipeline construction to begin.

Construction of the Trans-Alaska Pipeline System (TAPS) began in 1974 and was completed in 1977 at a cost of over $9 billion. In June 1977, the first barrel of North Slope crude flowed from the Trans-Alaska pipeline, and Alaska stepped into the big leagues of oil producers. By 1980 more than 1.5 million barrels of oil a day were flowing to Valdez.

1980-Present: Supplemental Development on the North Slope

The '80s in Alaska's oil industry have been characterized by wild fluctuations in oil prices and development of supplemental projects on Alaska's North Slope. High oil prices early in the decade spurred development of the Kuparuk River oil field which increased North Slope production by 300,000 barrels per day. Milne Point, Lisburne and Endicott fields added more than 150,000 barrels per day to that total. In 1986 and early 1987, the Milne Point field was temporarily shut down due to low oil prices.

Alaska produces 25% of all U.S. oil.

Alaska a Major U.S. player, a Minor Player in the Global Game

In 1988, Alaska produced more than 2 million barrels of oil a day. That represented more than 25% of the U.S.' production and about 3.5% of the total world production. Alaska ranked 9th last year in world oil production. Three Organization of Petroleum Exporting Countries (OPEC) produced at a higher rate than Alaska—Saudi Arabia, Iran, and Iraq. Five nonmembers of OPEC out produced Alaska—the USSR, the rest of the U.S., Great Britain, China, and Mexico. Even if all OPEC countries had produced at capacity in 1988 Alaska would have come in at 11th in total oil production. (See Table 2.)

The relationship between OPEC members' actual production and their potential production capacity has been the single biggest factor in the world oil market since 1973. Producing at less than capacity, OPEC has driven up the price for oil and facilitated oil development that was otherwise too costly or politically sensitive to consider.

Alaskan Oil: Subject to the Whims of the World Market

OPEC's potential to dictate world oil supply is important because it puts into perspective Alaska's current position in the world oil market. The

Table 1

Alaska Oil Production History since Statehood
(Barrels per Day)

Year	Production Event	Cook Inlet	Prudhoe Bay	Kuparuk	Milne Point	Lisburne	Endicott	TOTAL
1958	Swanson River	98						98
1959		511						511
1960		1,529						1,529
1961		17,333						17,333
1962		28,107						28,107
1963		29,425						29,425
1964	Middle Ground Shoals	30,285						30,285
1965		30,497						30,497
1966	Granite Point	39,355						39,355
1967	MacArthur River	79,215						79,215
1968	Trading Bay	181,103						181,103
1969		203,597						203,597
1970		229,080						229,080
1971		215,849						215,849
1972		201,540						201,540
1973		200,382						200,382
1974		197,796						197,796
1975		197,184						197,184
1976		183,586						183,586
1977	TAPS Opens	160,364	580,000					740,364
1978		137,559	1,089,000					1,226,559
1979		117,778	1,283,000					1,400,778
1980	Prudhoe at Maximum Efficienct Rate	98,851	1,522,000					1,620,851
1981	Kuparuk Start-up	86,411	1,522,000	2,990				1,611,401
1982		75,151	1,532,241	88,622				1,696,014
1983	Prudhoe Waterflood	67,947	1,536,413	109,207				1,713,567
1984		59,769	1,531,287	127,434				1,718,490
1985	Kuparuk Phase 2 Milne Point	47,154	1,556,023	215,888	1,929			1,820,994
1986	Kuparuk Phase 3 & Lisburne	46,611	1,537,752	257,514	12,901	8,500		1,863,278
1987	Endicott Starts Up Lisburne Full Development Central Gas Facility Online	40,000	1,590,000	280,000		40,000	20,000	1,970,000
1988	North Slope Production Peak?	40,000	1,590,000	300,000		40,000	100,000	2,070,000

Source: Alaska Department of Natural Resources, Division of Oil & Gas.

Table 2

World Oil Production and Reserves 1988
(Ranked by 1988 Production)

Country	1988 Production (thousands bbl./day)	1988 Capacity (thousands bbl./day)	Jan. 1, 1989 Oil Reserves (billion barrels)	1988 Production as a Percent of Total 1989 Reserves
Saudi Arabia	4,708	8,750	170.0	1.0%
Iraq	2,679	2,800	100.0	1.0
Iran	2,208	3,000	92.9	0.9
Kuwait	1,254	2,500	*91.9	0.5
Abu Dhabi	1,013	N/A	92.2	0.4
Dubai	355	N/A	4.0	3.2
Qater	349	600	3.2	4.0
Neutral Zone	316	N/A	5.2	2.2
Shar jah	65	N/A	1.5	1.6
Middle East OPEC	12,947	N/A	560.9	0.8
Venezuela	1,658	2,150	58.0	1.0
Nigeria	1,358	1,700	16.0	3.1
Libya	1,012	1,600	22.0	1.7
Indonesia	1,138	1,350	8.3	5.0
Algeria	667	700	8.4	2.9
Gabon	175	200	0.7	9.1
Ecuador	310	310	1.4	8.1
Total OPEC	19 265	N/A	675.7	1.0
USSR	12,477	N/A	58.5	7.8
Other Noncommunist	9,220	N/A	79.6	6.2
USA - Excluding Alaska	6,096	N/A	19.7	11.3
North Sea	3,445	N/A	15.6	8.1
China	2,690	N/A	23.6	4.2
Mexico	2,527	N/A	54.1	1.7
USA - ALASKA	2,070	N/A	6.8	11.1
Oman	597	N/A	4.1	5.3
Other Communist	422	N/A	1.8	8.6
Total NonOPEC	39,544	N/A	263.8	5.5
Total World	57,703	N/A	907.4	2.3

* Includes Neutral Zone capacity.

Source: Oil and Gas Journal, December 26, 1988 and Petroleum Intelligence Weekly, July 25, 1988
N/A: Not Available or Applicable.

OPEC countries, in particular Saudi Arabia, have tremendous potential to influence the world supply of oil. If all OPEC countries were to produce at full capacity they would drive down oil prices. One potential result of this scenario is the closure of oil fields which cannot produce as cheaply. As a comparatively small producer, Alaska just goes along for the ride when

(continued on page 9)

Occupational Staffing Patterns In Alaska's Oil Industry

Oil is More Than a Hard Hat Industry

Many people, if asked to describe their image of an oil and gas industry employee, might describe a roustabout working on an oil rig. Others would picture a corporate executive sitting behind a large desk. Still others might first think of a mariner employed on a supertanker. All would be right.

Since 1986 oil and gas firms operating in Alaska have been required to submit information to the Department of Labor describing the occupation and work location of all their employees. Analysis of this information provides some interesting — and not too surprising — insights into the industry.The left hand columns of the table below break out employment in the oil and gas industry by various occupational groups.

1 in 8 A Mechanic or Repairer, But Not In Every Region

Nearly one in every eight oil and gas employees (12.3%) in Alaska is a mechanic or repairer. As expected, these skills aren't demanded equally throughout the state. The four right hand columns of the table below point out the geographically uneven distribution for the different occupations; nearly 70% of mechanics and repairers work in the Northern region, 13.4% in Gulf Coast, and only 8.7% in the Anchorage/MatSu region.

While the Northern region claims the highest percentage of the industry's mechanics, Anchorage/MatSu is home for most of the office staff and those working in related technical trades. Over 20% of the industry's employees are either executives, administrators, or office staff. Two–thirds of the executives, administrators and corporate officers work in the Anchorage/MatSu area, as do one–half of the industry's clerical and administrative support workers. The area also claims most of the scientists, mathematicians and technicians.

The Gulf Coast region has only one–half the number of workers as Anchorage/MatSu and a third of the number as the Northern region. Yet it employs a significant share of workers in certain occupations. One–third of all welders and solderers are located in the Gulf Coast region. And nearly four in every ten material handlers, helpers and general laborers work in the region.

Extraction Workers Located in Northern & Gulf Coast Regions

The majority of workers in the extractive occupations (oil well drillers, explosives handlers, and mine machine operators, for example) are located in the Northern and Gulf Coast regions. The Northern region claims slightly less than one–half of all oil and gas industry employees; but nearly two–thirds of those employed in extractive occupations. Likewise, the Gulf Coast region is host to only 15% of all oil and gas jobs, but the area has 25% of the extractive jobs.

Overall, regional occupational breakouts portray an industry that has different occupational needs in different regions. Most administrative and scientific employees work in areas where support services are most accessible. Those occupations which are responsible for production work close to the resource.

Oil & Gas Industry Occupational Patterns

Oil & Gas Industry Occupational Breakdown for Alaska			Oil & Gas Industry Occupational Breakout By Region			
Rank	Pct. of Total	Occupation	Northern	Anch. Mat/Su	Gulf Coast	Balance of State
1	12.3%	Mechanics & Repairers	69.5%	8.7%	13.4%	8.4%
2	10.9	Admin. Support & Clerical	35.1	54.1	7.1	3.7
3	10.5	Officers Administrators & Execs	26.3	65.7	4.6	3.3
4	9.7	Handlers, Helpers & Laborers	46.2	4.8	38.6	10.4
5	8.0	Material Moving Occupations	63.1	6.9	22.9	7.1
6	7.7	Extractive Occupations	63.7	5.5	25.5	5.3
7	7.7	Engineers, Surveyors & Architects	36.5	56.7	3.7	3.1
8	6.5	Plant & System Operators	56.1	25.4	18.4	0.2
9	6.3	Construction Trades	59.0	9.7	21.7	9.7
10	4.9	Natural Scientists & Mathematicians	10.5	87.9	1.2	0.4
11	4.5	Technicians	40.0	53.4	6.1	0.5
12	2.4	Welders & Solderers	59.4	6.2	33.0	1.4
	8.7	All Other	49.2	30.8	16.1	3.9
	100.0	Total	47.7	31.5	15.8	5.0

Source: Alaska Department of Labor, Resident Hire Files

(continued from page 7)

countries or events act to manipulate prices. The results for the Alaskan economy can be bountiful, as evidenced by the boom in the early 1980s. Or they can be traumatic, as was the case when oil prices crashed in 1986.

Trends: Employment Small, Productivity High

Alaska's oil industry (defined as those companies producing or performing oil and gas field services) employed about 9,000 people in 1988. This was little more than 4% of the state's total wage and salary employment. If the definition of industry activity were to be extended to include pipelines, refineries, and wholesale and retail sales of petroleum products, the employment number stretches to 11,000.

This is a relatively small number compared to the oil industry in other U.S. oil producing states, especially when the amount of oil produced is figured into the equation. By comparison, Texas' oil industry employs over 171,000 people; nearly 120,000 more are employed in related activities. Texas employs these greater numbers despite the fact that the amount of oil produced there amounts to only slightly more than that produced in Alaska. Table 3 compares the barrels produced per employee ratios for the major oil producing states.

Prudhoe = High Productivity

No, Alaskan oil industry workers are not that much more productive than those in other states. Circumstances surrounding the industry in this state are different than in any other state. Prudhoe Bay is the nation's only producing super giant oil field, and its sheer size and productivity per well lends itself to a smaller work force. The average Alaska oil well produced more than 588,000 barrels of crude oil in 1988; in Texas that figure was slightly more than 3,900 barrels. The average production per oil well translates into fewer producing wells in Alaska (1,216 in 1987 compared to Texas' 198,163). One consequence of this is that fewer people are needed to support the smaller number of Alaska rigs.

While fewer oil wells partly explains why direct oil industry employment in Alaska is smaller, it doesn't explain why indirect employment is smaller. The industry's indirect activities, such as pipelines, refineries, and wholesale and retail distribution of petroleum products, are a size smaller in Alaska because this state has a much smaller, more fragmented market for petroleum products than exists in Texas or elsewhere in the nation.

High Productivity + Large Oil Companies = Smaller Employment Fluctuations

One effect of the relatively low amount of labor needed to produce a barrel of oil from Prudhoe is that it has made Alaska oil industry employment less sensitive to changes in oil prices than in other oil producing states. Figure 1 compares annual changes in employment in the oil industry during the past seven years in the five largest oil producing states. In general, during the last seven years employment changes on the down side have been less severe in Alaska than in other oil producing states. On the other hand, when conditions have been favorable for employment growth, Alaska has been among the growth leaders.

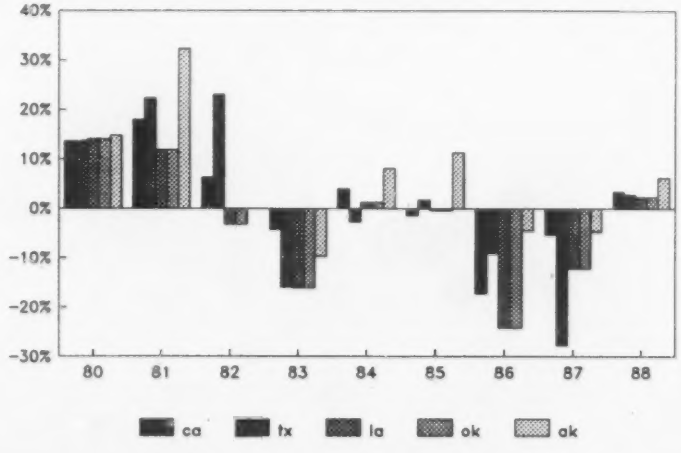
Another factor which cannot be ignored when examining employment trends is the relative size and strength of the players in Alaska's oil industry. Alaska's oil industry is dominated by a few well capitalized, well positioned oil companies. In other states, smaller independent oil companies play a much larger role in the industry. The companies involved in Alaska's oil industry are better positioned to ride out price fluctuations than smaller companies, and one result of this is more stable employment in Alaska.

When Employment Changes Occur: Oil Field Services are Affected First

Alaska's oil industry breaks down into two basic sectors: firms engaged in the general operation of oil field properties, and firms providing services to companies operating oil properties. The former category, oil producers, is where traditional oil company employment is counted — Atlantic Richfield Inc. (ARCO), British Petroleum Exploration, and Exxon, for example. An example of firms in the latter category, oil field services, are VECO Inc. and Alaska United Drilling. In general, employment has been somewhat evenly divided between these two categories. (See Table 4.)

Figure 1

Changes in Oil Industry Employment in the Five Largest Oil Producing States 1980-1988



Source: U.S. Department of Labor, Bureau of Labor Statistics.

While the distribution of total employment has been in the 40-60 percent range for each of the categories, employment patterns in the two sectors are different. Table 4 examines the oil field services component of the industry in greater detail. It is evident that since 1980 the most volatile part of oil industry employment appears in firms providing services to traditional oil companies, especially those firms providing exploration services. The fluctuations in exploration employment generally parallel the fluctuations in world oil prices. When prices are high, more fields become feasible and exploration employment booms. On the other hand, when prices fall exploration is curtailed and firms drilling and exploring for new finds are the first to be cut back.

More than Just a Hard Hat Industry

While the image of an oil industry worker is a rig attendant wearing a hard hat, the industry covers a broad range of occupations. Geologists, clerical staff, construction workers, and mathematicians are all part of the industry picture. (See sidebar on page 8.) So although the oil industry has a blue collar image, it. is still host to plenty of white collar jobs.

A large number of the blue collar employees work in the oil field services segment of the industry. The difference in the type of work conducted by blue collar and white collar workers is made evident in the occupational injury and illness statistics. The oil field services industry is a far more hazardous place to work than is the traditional oil company. (See sidebar on injury and illness statistics page 12.)

Oil Spill Clouds Industry's Immediate Future

Ever since the discovery of Prudhoe Bay, speculation has been that Alaska's economic future would be intimately tied to the oil industry. Events occurring between 1969 and the present have reinforced that impression. The last eight months, though, have cast doubt as to what the industry's role will be in the 1990s and beyond. The Exxon Valdez oil spill set off a number of reactions, including a tax increase on the industry in the form of repeal of the Economic Limit Factor (ELF), legislation mandating more extensive clean-up capabilities and a re-evaluation of the development of oil reserves in the Arctic National Wildlife Refuge (ANWR).

Despite the events that have transpired since the spill, several facts lead one to believe that the oil industry will continue to be a prominent player in Alaska's economy well into the next century. First, Alaska's market position, while it may erode gradually, should continue to be good. Prudhoe Bay is the largest, most efficient oil producing field in the United States. And regardless of inevitable declines in production, Prudhoe will be a significant oil producer into the next century. Second, ANWR represents what the U.S. Department of Energy has characterized as one of the largest potential oil reserves in the U.S. These facts, coupled with projections that the U.S. will be importing more than 60% of its oil by the year 2000, increase the likelihood of the development of ANWR.

Table 3

Thousands of Barrels Produced Per Employee [1]/

	1986	1987
Alaska	80.6	88.8
Louisiana	8.4	9.4
Oklahoma	3.0	3.1
Texas	4.3	4.5
Wyoming	11.0	13.0
TOTAL	7.0	7.7

1/ Employee count includes only those in oil and gas extraction firms, not indirect employment such as oil and gas refineries.

Source: Petroleum Independent, September 1988.

Table 4

Alaska Oil Industry Employment

Industry	1980	1981	1982	1983	1984	1985	1986	1987	1988
Total Oil & Gas	6,154	8,110	8,085	7,443	8,040	8,869	8,509	8,064	8,619
Producers	3,312	3,156	3,549	4,057	4,515	4,748	4,639	4,460	4,568
Oil Field Services	2,842	4,960	4,536	3,386	3,525	4,121	3,870	3,604	4,051
Drilling	991	1,493	1,245	815	841	1,174	1,171	846	893
Exploration (Seismic)	751	1,447	1,615	930	710	673	340	298	294
Other Oil Field Services	1,100	2,020	1,676	1,641	1,974	2,274	2,359	2,460	2,864
Oil Industry Indicators									
Number of oil rigs operating	14	23	22	14	14	20	13	8	n/a
Exploration (crew months)	37	82	129	58	79	48	16	5	n/a
Production (millions of barrels)	591.6	587.3	618.9	625.5	630.4	666.2	681.3	716.0	738.1

Source: Employment, Alaska Department of Labor, ES-202 data; Oil Industry Indicators, Petroleum Independent, September 1988 except 1988 production from Oil & Gas Conservation Commission.
N/A: Not available.

Finally, add in the near certainty of continued supplemental development of fields in the Prudhoe area, and the oil industry's future looks bright in Alaska. And this doesn't even figure in the potential of tapping Alaska's tremendous North Slope natural gas resource.

This is not to say that the oil industry's future — especially when it comes to new development—is guaranteed. Like any resource or potential resource, Alaska's oil industry must remain competitive with other oil producers, as well as with substitute energy forms. Development of ANWR oil reserves, for example, while likely, is not a certainty.

The mere presence of oil and gas reserves doesn't translate into oil industry investment or employment. While there are significant developable oil & gas reserves in Alaska, political and market conditions must be favorable for major expansion to occur.

It's a matter of debate whether a compelling case can be made for ANWR development in light of the Valdez oil spill. There is less debate, though, that the specter of rising dependance on imported oil will carry a great deal of weight in future decisions. Another factor that weighs in the equation is that the most likely alternative to ANWR — increased consumption of imported oil — will do nothing to decrease oil tanker traffic. Most imported oil is shipped by ocean going tankers; not developing ANWR would likely redirect traffic to and from Alaska, but it wouldn't necessarily reduce overall oil tanker traffic.

Other than the development of ANWR or the proposed gasline, there are potential development sites on the North Slope which should provide incremental increases to Alaskan oil production. Development of these fields is likely to be gradual, however. And they are not likely to replace lost production at Prudhoe that will occur between now and the time when they come into production.

Summary

The oil and gas industry has developed into one of the state's most prominent industries in the last 30 years. Production from the Prudhoe Bay super giant oil field has made Alaska a major U.S. producer and a significant, but lesser player in the world oil market. Employment in Alaska's oil industry is much less than other oil producing states in large part due to the production per well at Prudhoe. Alaska's oil industry has two employment components — a relatively stable producing sector and a more volatile oil field services sector. Employment in oil field

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Worker Injuries and Illnesses in Alaska's Oil & Gas Industry

Oil & Gas Not One of Alaska's High Injury Industries

Worker injury data shows that 5% of the private sector OSHA recordable injuries and illnesses are attributed to workers employed in the oil & gas industry. Of the 8,069 private sector time loss cases reported to the Alaska Division of Workers' Compensation for 1987, 423 were workers employed by oil & gas companies.

Although some might think of oil & gas as an injury prone industry, this is not born out by OSHA statistics. Oil & gas has a low incidence of worker injuries and illnesses compared to many of Alaska's private industries — lower than manufacturing, construction, and transportation. In fact, during the period 1985 to 1987, the OSHA recordable case rate for oil & gas has been lower than the rate for retail trade.

Work injury and illness rates are stated in terms of the estimated number of cases per 100 "workers", where one worker is equal to 2,000 hours worked. This allows a common standard for comparing all Alaska industries despite differing work hour patterns.

From 1982 to 1986 oil & gas experienced a five-year series of steadily dropping rates for OSHA recordable injury and illness cases. The 1986 rate was the lowest ever recorded for the industry (8.2 cases per 100 workers)1/. In 1987, the OSHA case rate increased to 9.0 cases per 100 workers, ending the five year trend of dropping rates.

Oil Field Services Work More Hazardous Than Production Work

The oil and gas industry has two components, production and field services (which includes drilling and exploration). The 1987 employment composition was 55% production and 45% services. The two components have vastly different rates of injury.

The incidence rate for OSHA recordable injuries and illnesses in the production component is relatively low. The 1987 rate was 3.5 cases per 100 workers, lower than most other industries. In comparison, the rate of OSHA cases in the field services component for 1987 was 15.2 cases per 100 workers. This is higher than the total private sector rate of 10.9 and only slightly lower than the incidence rate for Alaska's construction industry (17.1). The oil field services industry had its lowest recorded OSHA case rates in 1986–1987.

The time loss case rate is a measure of the more serious injury and illness cases — those cases requiring the employee to be absent from work. The lost workday case rate for oil & gas was stable during 1986–1987, following a general trend of declining rates in the prior few years. The lost workday case rate in oil and gas field services was stable from 1986 to 1987, holding at its record low of 6 8 cases per 100 workers.

Falls & Fractures are Common Injuries

A brief portrait of worker injury characteristics has been developed from time loss cases filed with the Alaska Division of Workers Compensation. Oil & gas has a lower portion of back injuries than most other industries. Injury data for 1987 show that injuries to the lower extremities accounted for 96 of the 423 time loss cases, a greater proportion than the average for all industries. Falls also account for a greater portion of accidents in oil & gas than in other industries. Oil & gas typically has a higher percentage of fracture injuries than other industries.

1/ Many employees in the oil and gas industry work long hours (as compared to the standard 40-hour week). The incidence rate, based on hours worked, can not be used to derive the number of injuries as a proportion of the annual average employment.

services is much more sensitive to price changes than production employment. While the oil industry provides a lot of blue collar employment for Alaskans, it also has a good percentage of white collar jobs.

The Exxon Valdez oil spill has raised some questions as to the future of the oil industry in the state. More stringent legislation and a more scrutinizing public are just two results of the spill. The potential future of the industry in Alaska looks to be bright with the possibility of expansion at ANWR, a potential gas pipeline, and continuing production and development in the Prudhoe area. Future development, however, is contingent on two factors: the ability of Alaska's oil industry to remain competitive in the world oil market, and the political climate surrounding development of Alaska's remote, pristine areas.

August Ends A Generally Upbeat Summer

by Holly Stinson

Alaska's economy continued to exhibit encouraging growth in August, posting a hefty over the year increase in employment of 5+%. Jobs reached a probable peak for the year during August, the usual month for maximum employment in the state. (See Table 1 and Figure 1.)

There were almost 12,000 more jobs than a year ago, but almost half of those were oil cleanup jobs. Even without those jobs, employment grew at a healthy rate of 2.6% over the year.

Major contributors to growth besides oil spill cleanup workers were jobs in government, services, retail trade and mining. Drags on employment growth remained in the finance-insurance-real estate and manufacturing sectors. Two major components in Alaska's manufacturing sector, seafood processors and the wood products industry, employed fewer workers this August than last year.

While employment grew, the state crossed a historic threshold when the unemployment rate fell below 6% for the first time since at least 1976 (earlier comparable statistics are not available). (See Table 4.)

Fewer Oil Cleanup Jobs Available in August

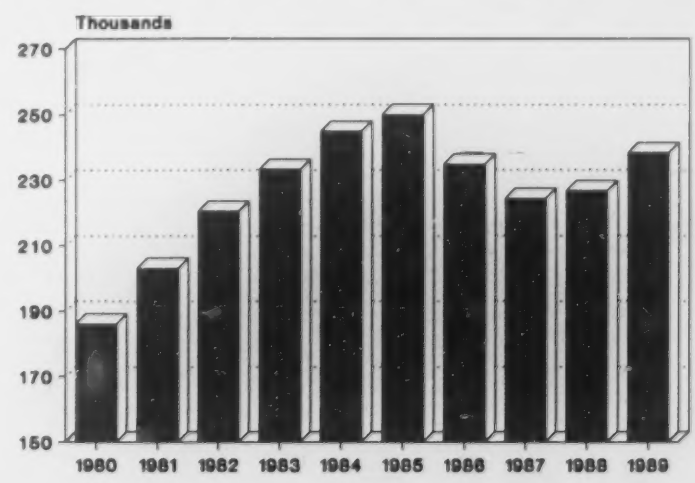
The transportation industry- where oil cleanup workers are counted- led August's over the year job growth, but there were signs of changes to come. A drop of 200 jobs from July to August was the first indication of demobilization of the cleanup workers.

By early August there were no new hires of cleanup workers. Payrolls were reduced by attrition as workers rotating off the front lines were not returned to work. Although most of the cleanup jobs will have disappeared by mid-September, VECO plans on keeping 500 workers busy through winter on spill-related tasks.

Despite the drop in August oil spill employment, direct cleanup jobs attributable to VECO and Norcon accounted for 5,400 jobs in the transportation industry. This is all but 300 of the 5,700 additional jobs available in the transportation industry compared to August 1988.

Figure 1

August Employment in Alaska During the 1980s



Source: Alaska Department of Labor, Research & Analysis.

Table 1

Nonagricultural Wage and Salary Employment By Place of Work

Alaska

	p/ 8/89	r/ 7/89	8/88	Changes from: 7/89	8/88
Nonag. Wage & Salary	238,300	237,900	226,700	400	11,600
Mining	11,000	10,900	10,300	100	700
Construction	11,300	11,100	11,000	200	300
Manufacturing	21,200	22,500	22,200	-1,300	-1,000
Seafood Processing	13,400	14,900	14,300	-1,500	-900
Lumber & Paper Products	4,200	4,000	4,300	200	-100
All Other Manufacturing	3,600	3,600	3,600	0	0
Trans., Comm. & Utilities	24,800	24,900	18,300	-100	6,500
Trucking & Warehousing	2,400	2,400	2,300	0	100
Water Transportation	7,000	7,200	1,300	-200	5,700
Air Transportation	6,200	6,200	5,800	0	400
Communications	3,300	3,300	3,300	0	0
All Other Transportation	5,900	5,800	5,600	100	300
Trade	46,100	46,000	44,700	100	1,400
Wholesale	8,300	8,300	8,000	0	300
Retail	37,800	37,700	36,700	100	1,100
Gen. Merch. & Apparel	5,500	5,600	5,200	-100	300
Food Stores	6,500	6,400	6,200	100	300
Eating & Drinking Places	14,300	14,200	14,000	100	300
All Other Retail	11,500	11,500	11,300	0	200
Finance, Insurance & R.E.	10,700	10,700	10,900	0	-200
Services	47,000	46,600	45,500	400	1,500
Hotels & Other Lodging	6,300	6,400	6,000	-100	300
Government	66,200	65,200	63,800	1,000	2,400
Federal	18,700	18,600	18,500	100	200
State	19,900	19,900	18,600	0	1,300
Local	27,600	26,700	26,700	900	900

Notes: Prepared in cooperation with the U.S. Bureau of Labor Statistics.

Government includes teachers in primary and secondary schools, and personnel employed by the University of Alaska.

The employment numbers that appear above are definitionally different from those that appear in the Labor Force table.

Benchmark date: March 1988

p/ denotes preliminary estimates
r/ denotes revised estimates

Source: Alaska Department of Labor, Research & Analysis Section.

Growth in Gulf Coast Skewed by Oil Cleanup Jobs

The enormous increase in Gulf Coast's transportation industry skews the region's growth. While employment grew a phenomenal 23.5%, growth is less than 1% when the cleanup jobs are excluded. (See Table 2.) The growth experienced outside of the cleanup work force was due to additional jobs in government, services and trade.

August marked the half-way point for completion of the Bradley Lake hydroelectric project. Several factors, including lower than expected inflation, helped keep the $356 million project under budget by $28 million so far. The last phase, construction of transmission lines, began this summer. Bradley Lake continues to keep Gulf Coast's construction employment steady.

Seafood Harvest Down in Gulf Coast . . .

On the down side in Gulf Coast, seafood processing accounted for a loss of over 1,000 jobs from last August's level. Much of the decrease in employment is due to closures of many salmon harvesting areas this summer. Some of the decrease is also attributed to a lack of available workers when employers had fish to process.

More than 22 million salmon were harvested in Prince William Sound this season. This is one-third again as much as the 1988 harvest, but less than half of the record harvest that was originally predicted. The hatcheries had a better season than individual harvesters. The Prince William Sound Aquaculture Corp. announced a record harvest for its three hatcheries, and a record earnings of $14.5 million.

In other fisheries in Prince William Sound, both the pot and trawl shrimp fisheries scheduled for mid-August were cancelled due to oil in the area. While these fisheries are small potatoes compared to the area's salmon harvest (the value of the shrimp harvest is less than $1 million compared to a salmon harvest as high as $70 million) it was still another economic disappointment for the area.

The oil spill caused some odd twists in the fishing industry. In Kodiak, closure of 51 of 52 salmon fishing areas drove fishermen to enter a lottery for a chance to harvest hatchery salmon. Processors turned into gamblers this season, bidding for portions of the Kitoi hatchery's salmon. Successful bidders were deluged with salmon while unsuccessful bidders' plants sat idle. The hatchery's pink salmon harvest was double the expected 2 million. By the end of August, Kitoi, a nonprofit organization, was pondering what to do with this year's extraordinary profit of $10 million.

. . . But Salmon Harvest Sets Record Statewide

While Gulf Coast had fewer seafood jobs this summer, the salmon harvest was excellent for the state overall. This year's salmon harvest set a record for volume, although it did not set a record for value since prices were well below last year's. Strong salmon runs in Southeast and Bristol Bay kept processing jobs above year-ago levels in both of these areas. However, the loss of jobs in Gulf Coast kept statewide levels below 1988 this summer, and August was no exception.

Southeast Pinks A Big Contributor to Record Salmon Catch . . .

Southeast's salmon harvest was a big factor in making Alaska's 1989 salmon season a record year. Five times as many pink salmon were caught as last year. And while last year's disastrous harvest was easy to top, this year's harvest was more than twice what had been expected. The record salmon harvest kept Southeast processors busy. Employment climbed 500 over-the-month to a level slightly above August 1988 employment.

. . . While Most of the Rest of Southeast Continues Growing

The Greens Creek silver mine near Juneau continued to account for over-the-year increases in mining employment in Southeast. By all accounts the tourist season was a good one in Southeast, keeping jobs in trade and services considerably above year-ago levels. And a healthy construction industry in Juneau and Ketchikan contributed to Southeast's over-the-year employment growth of almost 5%.

This summer's unusually dry, sunny weather in Southeast Alaska caused a shutdown of the Ketchikan Pulp Mill. An inadequate water supply forced a temporary layoff of 200 mill workers in late August. Lumber processing employment was already down slightly even without taking these layoffs into account.

Regional Disparities Characterize 1989 Tourist Season

Like the fishing industry, there were disparities in the tourism industry, depending on the region. In Valdez, the director of the Convention & Visitors Bureau estimated a 30% drop in tourists from last summer. Some of the decrease was attributed to fewer cruise ships docking in Valdez- schedules which were planned before the oil spill happened. The number of over-the-road visitors also appeared lower than usual. Flights into Valdez were usually filled with spill-related passengers; they also took up most of Valdez's hotel space, leaving little room for tourists.

Although Valdez saw fewer cruise ship passengers this year, other ports saw an increase. Holland/America, the largest tour company operating in Alaska, reported their passenger count was up 19% this season. Four new ships are slated to visit Alaskan waters next season, and one already on the route is being expanded to accommodate more passengers. Their destinations vary from Southeast to Southcentral ports. Additional cruise ship traffic should continue to bolster many sectors of the economy.

A solid tourist season for Anchorage and Fairbanks contributed to more jobs in services and retail trade than last year for both cities.

Interior Mining Loses Largest Firm While Others Prepare To Open

News in the mining industry also varied in August. The announcement that Valdez Creek Gold Mine would shut

Table 2

Nonagricultural Wage and Salary Employment By Place of Work

Anchorage Borough

	p/ 8/89	r/ 7/89	Changes from: 8/88	7/89	8/88
Nonag. Wage & Salary	107,250	106,250	103,650	1,000	3,600
Mining	4,000	3,800	3,600	200	400
Construction	5,050	5,000	5,150	50	-100
Manufacturing	3,300	3,400	3,200	-100	100
Trans., Comm. & Utilities	10,300	10,200	9,550	100	750
Trucking & Warehousing	1,550	1,550	1,450	0	100
Water Transportation	550	550	300	0	250
Air Transportation	3,700	3,700	3,600	0	100
Communications	1,900	1,850	1,800	50	100
All Other Transportation	2,600	2,550	2,400	50	200
Trade	26,050	25,900	24,850	150	1,200
Wholesale	5,850	5,950	5,750	-100	100
Retail	20,200	19,950	19,100	250	1,100
Gen.Merch. & Apparel	2,650	2,650	2,700	0	-50
Food Stores	3,150	3,150	2,700	0	450
Eating & Drinking Pl.	8,150	7,900	7,800	250	350
All Other Retail	6,250	6,250	5,900	0	350
Finance, Insurance & R.E.	6,900	6,900	7,050	0	-150
Services	26,250	25,950	25,250	300	1,000
Government	25,400	25,100	25,000	300	400
Federal	10,350	10,300	10,350	50	0
State	6,700	6,700	6,450	0	250
Local	8,350	8,100	8,200	250	150

Fairbanks North Star Borough

	p/ 8/89	r/ 7/89	Changes from: 8/88	7/89	8/88
Nonag. Wage & Salary	27,400	27,350	26,850	50	550
Mining	200	200	200	0	0
Construction	2,000	2,000	2,050	0	-50
Manufacturing	700	650	700	50	0
Trans., Comm. & Utilities	2,150	2,150	2,100	0	50
Trucking & Warehousing	450	450	400	0	50
Air Transportation	350	350	350	0	0
All Other Transportation	1,350	1,350	1,350	0	0
Trade	6,450	6,450	6,350	0	100
Wholesale	800	800	800	0	0
Retail	5,650	5,650	5,550	0	100
Food Stores	800	800	750	0	50
All Other Retail	4,850	4,850	4,800	0	50
Finance, Insurance & R.E.	800	800	800	0	0
Services	6,200	6,150	6,150	50	50
Government	8,900	8,950	8,500	-50	400
Federal	2,900	2,900	2,800	0	100
State	3,650	3,700	3,400	-50	250
Local	2,350	2,350	2,300	0	50

Anchorage-MatSu Region

	p/ 8/89	r/ 7/89	Changes from: 8/88	7/89	8/88
Nonag. Wage & Salary	113,800	112,550	110,150	1,250	3,650
Mining	4,000	3,800	3,600	200	400
Construction	5,400	5,200	5,500	200	-100
Manufacturing	3,500	3,550	3,300	-50	200
Trans., Comm. & Utilities	10,850	10,800	10,050	50	800
Trade	27,550	27,350	26,500	200	1,050
Finance, Insurance & R.E.	7,350	7,350	7,500	0	-150
Services	27,700	27,250	26,650	450	1,050
Government	27,450	27,250	27,050	200	400

Interior Region

	p/ 8/89	r/ 7/89	Changes from: 8/88	7/89	8/88
Nonag. Wage & Salary	31,950	31,750	31,350	200	600
Mining	400	350	350	50	50
Construction	2,100	2,100	2,150	0	-50
Manufacturing	700	700	750	0	-50
Trans., Comm. & Utilities	2,650	2,600	2,600	50	50
Trade	6,900	6,900	6,850	0	50
Finance, Insurance & R.E.	900	900	900	0	0
Services	6,950	6,850	6,900	100	50
Government	11,350	11,350	10,850	0	500

Notes: Government includes teachers in primary and secondary schools, and personnel employed by the University of Alaska.

The employment numbers that appear above are definitionally different from those that appear in the Labor Force table.

Benchmark date: March 1988 p/ denotes preliminary estimates r/ denotes revised estimates

Source: Alaska Department of Labor, Research & Analysis Section.

(cont. on page 17)

Nonagricultural Wage and Salary Employment By Place of Work

Southeast Region

	p/ 8/89	r/ 7/89	Changes from: 8/88	7/89	8/88
Nonag. Wage & Salary	35,800	34,750	34,200	1,050	1,600
Mining	300	300	200	0	100
Construction	1,400	1,350	1,250	50	150
Manufacturing	7,200	6,600	7,250	600	-50
Seafood Processing	3,000	2,500	2,950	500	50
Lumber & Paper Products	3,950	3,850	4,000	100	-50
All Other Manufacturing	250	250	300	0	-50
Trans., Comm. & Utilities	2,700	2,650	2,600	50	100
Trade	5,600	5,600	5,300	0	300
Wholesale	550	550	450	0	100
Retail	5,050	5,050	4,850	0	200
Finance, Insurance & R.E.	1,050	1,050	1,050	0	0
Services	5,650	5,550	5,250	100	400
Government	11,900	11,650	11,300	250	600
Federal	2,250	2,200	2,100	50	150
State	5,450	5,350	5,150	100	300
Local	4,200	4,100	4,050	100	150

Southwest Region

	p/ 8/89	r/ 7/89	Changes from: 8/88	7/89	8/88
Nonag. Wage & Salary	15,100	16,500	14,650	-1,400	450
Seafood Processing	4,400	6,000	4,200	-1,600	200
All Other Private	5,100	5,000	5,000	100	100
Government	5,600	5,500	5,450	100	150
Federal	1,350	1,350	1,300	0	50
State	550	550	550	0	0
Local	3,700	3,600	3,600	100	100

Gulf Coast Region

	p/ 8/89	r/ 7/89	Changes from: 8/88	7/89	8/88
Nonag. Wage & Salary	29,350	29,850	23,750	-500	5,600
Mining	850	850	850	0	0
Construction	1,100	1,050	1,100	50	0
Manufacturing	5,350	5,400	6,400	-50	-1,050
Seafood Processing	4,600	4,650	5,750	-50	-1,150
All Other Manufacturing	750	750	650	0	100
Trans., Comm. & Utilities	7,100	7,700	1,500	-600	5,600
Trade	4,450	4,400	4,200	50	250
Wholesale	700	700	650	0	50
Retail	3,750	3,700	3,550	50	200
Finance, Insurance & R.E.	550	550	550	0	0
Services	4,150	4,200	3,800	-50	350
Government	5,800	5,700	5,350	100	450
Federal	650	650	600	0	50
State	2,000	1,950	1,650	50	350
Local	3,150	3,100	3,100	50	50

Northern Region

	p/ 8/89	r/ 7/89	Changes from: 8/88	7/89	8/88
Nonag. Wage & Salary	14,500	14,200	13,700	300	800
Mining	5,650	5,600	5,250	50	400
All Other Private	4,550	4,550	4,250	0	300
Government	4,300	4,050	4,200	250	100
Federal	400	400	400	0	0
State	300	300	300	0	0
Local	3,600	3,350	3,500	250	100

Notes: Government includes teachers in primary and secondary schools, and personnel employed by the University of Alaska.

The employment numbers that appear above are definitionally different from those that appear in the Labor Force table.

Benchmark date: March 1988 p/ denotes preliminary estimates r/ denotes revised estimates

Source: Alaska Department of Labor, Research & Analysis Section.

Table 3

Alaska Hours and Earnings for Selected Industries [1/2]

	Average Weekly Earnings			Average Weekly Hours			Average Hourly Earnings		
	p/ 8/89	r/ 7/89	8/88	p/ 8/89	r/ 7/89	8/88	p/ 8/89	r/ 7/89	8/88
Mining	$1,072.28	$1,069.21	$1,163.94	49.3	48.8	50.3	$21.75	$21.91	$23.14
Construction	1,117.70	1,168.34	1,055.38	47.2	48.6	43.2	23.68	24.04	24.43
Manufacturing	633.10	521.40	522.47	55.1	47.4	46.9	11.49	11.00	11.14
Seafood Processing	552.64	437.36	412.85	60.2	49.7	48.8	9.18	8.80	8.46
Lumber & Paper Prod.	772.88	664.41	713.37	47.3	42.4	43.0	16.34	15.67	16.59
Trans., Comm. & Utilities	932.69	869.78	570.13	50.8	48.7	35.7	18.36	17.86	15.97
Trade	387.98	408.07	369.35	35.4	36.5	33.7	10.96	11.18	10.96
Wholesale	496.51	552.77	512.34	37.7	38.9	37.7	13.17	14.21	13.59
Retail	351.19	357.78	320.09	34.6	35.6	32.3	10.15	10.05	9.91
Finance, Ins. & R.E.	406.33	413.57	394.02	35.8	38.4	33.0	11.35	10.77	11.94

Notes: p/ denotes preliminary estimates r/ denotes revised estimates Benchmark: March 1988

1/ Prepared in cooperation with the Bureau of Labor Statistics, U.S. Department of Labor.

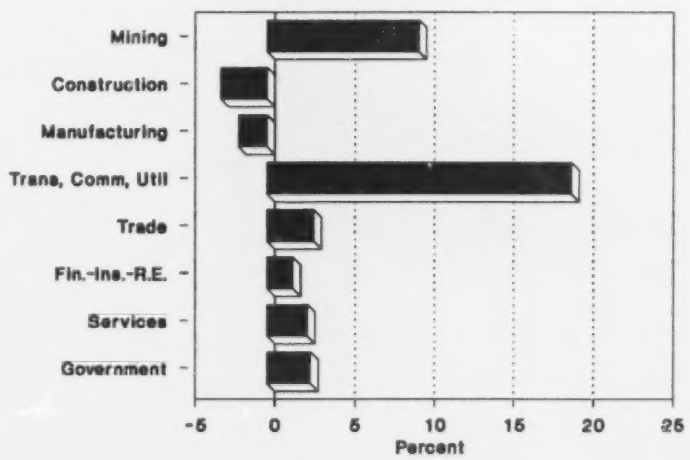
2/ Excludes eating and drinking establishments.

Averages are based on data for full- and part-time production workers (manufacturing) and nonsupervisory workers (nonmanufacturing) and are for gross earnings and hours paid, including overtime pay and hours.

Source: Alaska Department of Labor, Research & Analysis Section.

Figure 2

Change in Employment by Industry 1988 vs. 1989 (8 Month Average)



Source: Alaska Department of Labor, Research & Analysis.

down this autumn, putting 170 miners out of work, was followed by news of another mine's probable opening elsewhere in the Interior.

A Canadian firm announced that ore assayed from an old mine northeast of Fairbanks was rich enough to make a mining operation there a virtual certainty. Exploration will continue next summer; 120-200 people will be employed if the mine goes into production. This is only one of several mining prospects being explored in the Interior and the number of mining jobs reflects this increased activity. While employment was flat in Fairbanks, in the Interior it was up by 50 from July and by the same amount from year-ago levels.

Interest in gold mining continues to increase in the Nome area, also. After WestGold's success with its huge gold dredge operating in the seas off Nome, it came as no surprise that the state's

mining office was inundated in August with lottery applications for 19 additional offshore leasing tracts near Nome.

Employment in the oil and gas portion of the mining industry continued to make a strong comeback in August. Both the Anchorage and Northern areas each had 400 more mining jobs compared to August 1988. In both areas this increase is almost all oil and gas employment.

Air Cargo Boosting Anchorage Transportation Employment

Another strong gainer in Anchorage's employment scene for August was the transportation industry. Every component of this industry, which includes transportation (air, water and surface), communications, and utilities, enjoyed over-the-year increases. Spill-related activity accounts for some of this increase. Through June, the amount of air cargo handled at Anchorage's airport increased phenomenally, much of it destined for the spill cleanup effort.

August marked a change in Anchorage's transportation industry when Federal Express took over the international cargo company, Flying Tigers. While the Flying Tiger logo is gone from the fleet of 747's parked on Anchorage's tarmac, the local jobs remained with the new employer. Federal Express also began hiring employees to staff their new international hub.

MatSu Borough Selected for Jobs Corps Center

The MatSu Borough received some welcome news in August when it was selected as a site for a federal Job Corps Center. One possible location is the empty junior/senior high school campus between Palmer and Wasilla. The Center should bring in 50 new jobs and 200-250 residential students by 1991. There was also some discouraging news for the area when Mitsui announced a one year setback to their timetable for developing a ski resort at Hatcher Pass.

3.5% Employment Growth So Far In 1989

With August employment numbers in, two-thirds of 1989 is history. A look at the 8-month average employment for 1989 in comparison to the same period in 1988 shows employment growth statewide at 3.5% for the first eight months of 1989.

Gulf Coast led the growth with a 16.5% increase over 1988 employment. While this growth rate boosts the statewide picture, the relatively small employment of the Gulf Coast region affects statewide growth about 1%.

The industry leader for growth is, not surprisingly, transportation. (See Figure 2). Mining is also showing a substantial growth rate in the first 8 months of 1989. The construction industry lost jobs compared to the average of the first eight months of 1988. However, a turnaround may be approaching in construction as over the year employment gains were posted in June, July and August. The manufacturing sector also had lower employment in the first 8 months of 1989 than it did in 1988. Fewer seafood processing jobs in Gulf Coast and lower timber employment in Southeast account for manufacturing's negative rate.

Summary: A Healthy, But Skewed Growth Rate

Employment growth continued and most likely peaked during August. The transportation industry outshone all others in employment growth, with oil cleanup workers in Gulf Coast continuing to skew the picture.

August marked the completion of two-thirds of the year, and a look at 8-month average employment showed the state growing 3.5% over 1988. Disparities exist, with regional economies providing mixed reviews for industries unaffected by the oil spill. Overall though 1989 is revealing a healthy economy for Alaska.

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Table 4

Labor Force By Region and Census Area

	Labor Force			Unemployment			Rate			Employment		
	p/ 8/89	r/ 7/89	8/88	p/ 8/89	r/ 7/89	8/88	p/ 8/89	r/ 7/89	8/88	p/ 8/89	r/ 7/89	8/88
Alaska Statewide	249,497	250,786	250,167	14,646	15,336	20,664	5.9	6.1	8.3	234,851	235,450	229,503
Anch.-MatSu Region	123,027	122,712	126,320	6,891	6,954	10,237	5.6	5.7	8.1	116,136	115,758	116,083
Anchorage Borough	109,440	109,482	111,759	5,423	5,290	8,035	5.0	4.8	7.2	104,017	104,192	103,724
MatSu Borough	13,587	13,230	14,561	1,468	1,664	2,202	10.8	12.6	15.1	12,119	11,566	12,359
Gulf Coast Region	34,171	34,805	30,137	1,630	1,703	2,654	4.8	4.9	8.8	32,541	33,102	27,483
Kenai Peninsula Borough	21,309	21,646	19,031	1,305	1,297	2,136	6.1	6.0	11.2	20,004	20,349	16,895
Kodiak Island Borough	7,645	7,884	6,557	143	252	221	1.9	3.2	3.4	7,502	7,632	6,336
Valdez-Cordova	5,217	5,275	4,549	182	154	297	3.5	2.9	6.5	5,035	5,121	4,252
Interior Region	34,922	35,211	36,430	2,696	2,825	3,903	7.7	8.0	10.7	32,226	32,386	32,527
Fairbanks North Star Bor.	30,215	30,393	31,493	2,307	2,346	3,324	7.6	7.7	10.6	27,908	28,047	28,169
Southeast Fairbanks	1,909	1,964	2,067	93	139	234	4.9	7.1	11.3	1,816	1,825	1,833
Yukon-Koyukuk	2,798	2,854	2,870	296	340	345	10.6	11.9	12.0	2,502	2,514	2,525
Northern Region	8,025	8,044	8,085	664	804	865	8.3	10.0	10.7	7,361	7,240	7,220
Nome	3,056	3,115	3,093	311	415	401	10.2	13.3	13.0	2,745	2,700	2,692
North Slope Borough	2,902	2,864	2,856	156	163	162	5.4	5.7	5.7	2,746	2,701	2,694
Northwest Arctic Borough	2,067	2,065	2,136	197	226	302	9.5	10.9	14.1	1,870	1,839	1,834
Southeast Region	36,954	36,524	36,570	2,121	2,358	2,165	5.7	6.5	5.9	34,833	34,166	34,402
Haines Borough	904	911	909	51	74	66	5.6	8.1	7.3	853	837	843
Juneau Borough	16,815	16,497	16,636	898	885	916	5.3	5.4	5.5	15,917	15,612	15,720
Ketchikan Gateway Bor.	6,785	6,738	6,678	407	482	379	6.0	7.2	5.7	6,378	6,256	6,299
Pr. of Wales-Outer Ketch	2,792	2,824	2,792	214	295	246	7.7	10.4	8.8	2,578	2,529	2,546
Sitka Borough	4,369	4,332	4,343	205	248	230	4.7	5.7	5.3	4,164	4,084	4,113
Skagway-Yakutat-Angoon	1,682	1,649	1,679	137	134	154	8.1	8.1	9.2	1,545	1,515	1,525
Wrangell-Petersburg.	3,607	3,573	3,533	209	240	177	5.8	6.7	5.0	3,398	3,333	3,356
Southwest Region	12,398	13,490	12,625	644	692	837	5.2	5.1	6.6	11,754	12,798	11,788
Aleutian Islands	3,419	3,721	3,482	49	52	103	1.4	1.4	3.0	3,370	3,669	3,379
Bethel	4,760	5,188	4,853	337	372	417	7.1	7.2	8.5	4,423	4,816	4,436
Bristol Bay Borough	441	481	467	5	6	30	1.1	1.2	6.4	436	475	437
Dillingham	2,187	2,352	2,200	86	64	93	3.9	2.7	4.2	2,101	2,288	2,107
Wade Hampton	1,591	1,748	1,623	167	198	194	10.5	11.3	12.0	1,424	1,550	1,429

Notes: p/ denotes preliminary estimates r/ denotes revised estimates Benchmark: 1988

- Federal guidelines require the use of unrounded labor force data, adjusted to be consistent with the Current Population Survey in formulas used to allocate federal funds.
- Comparisons between different time periods are not as meaningful as other time series published by the Alaska Department of Labor.
- The official definitions of unemployment currently in place exclude anyone who has made no attempt to find work in the four-week period up to and including the week that includes the 12th of each month. Most Alaska economists believe that Alaska's rural localities have proportionately more of these discouraged workers.
- The employment numbers that appear above are definitionally different from those that appear in the Nonagricultural Wage & Salary Employment tables.

Source: Alaska Department of Labor, Research & Analysis Section.

Alaska Economic Regions